

Indemnatee's facilities and Indemnatee will bear no financial or legal responsibility whatsoever arising from such claims.

Indemnatee agrees to fully cooperate with the defense of any Covered Claim. Indemnatee will provide written notice to Indemnifying Party of any covered claim at the address for notice assigned herein within ten days of receipt, and, in the case of receipt of service of process, will deliver such process to Indemnifying Party not later than ten business days prior to the date for response to the process. Indemnatee will provide to Indemnifying Party reasonable access to or copies of any relevant physical and electronic documents or records related to the deployment of non-standard xDSL technologies used by Indemnatee in the area affected by the claim, all other documents or records determined to be discoverable, and all other relevant documents or records that defense counsel may reasonably request in preparation and defense of the claim. Indemnatee will further cooperate with Indemnifying Party's investigation and defense of the claim by responding to reasonable requests to make its employees with knowledge relevant to the claim available as witnesses for preparation and participation in discovery and trial during regular weekday business hours. Indemnatee will promptly notify Indemnifying Party of any settlement communications, offers or proposals received from claimants.

Indemnatee agrees that Indemnifying Party will have no indemnity obligation, and Indemnatee will reimburse Indemnifying Party's defense costs, in any case in which Indemnifying Party's technology is determined not to be the cause of any Indemnatee liability.

Claims Not Covered: No Party hereunder agrees to indemnify or defend any other Party against claims based on gross negligence or intentional misconduct.

**3. Can SWBT be permitted to limit xDSL capable loops to the provision of ADSL?**

Parties' Positions

See DPL Issue No. 2.

Award

The Arbitrators agree with Petitioners that the use of xDSL loops should not be limited to the provision of ADSL service. In its *Advanced Services Order* the FCC concluded, "any loop technology that complies with existing industry standards is presumed acceptable for

deployment.”<sup>61</sup> Further, the FCC concluded that “a LEC may not deny a carrier’s request to deploy technology that is presumed acceptable for deployment, unless the LEC demonstrates to the state commission that deployment of the particular technology within the LEC network will significantly degrade the performance of other advanced services or traditional voice band services.”<sup>62</sup> In addition, under the T2A, CLECs may provision non standard xDSL services as well, subject to certain conditions.

In its recent *UNE Remand Order*, the FCC affirmed its earlier decisions regarding the provision of loops capable of providing high speed data services.

Unbundling basic loops, with their full capacity preserved, allows competitors to provide xDSL services. This in turn will foster investment, innovation, and competition in the local telecommunications marketplace. Without access to these loops, competitors would be at a significant disadvantage, and the incumbent LEC, rather than the marketplace, would dictate the pace of the deployment of advanced services.<sup>63</sup>

The FCC further clarified that the ILEC is required to provide “loops with all their capabilities intact, that is, to provide conditioned loops, *wherever* a competitor requests, even if the incumbent is not itself offering xDSL to the end-user customer on that loop” and the ILEC “cannot refuse a competitive LEC’s request for conditioned loops on the grounds that they themselves are not planning to offer xDSL to that customer.”<sup>64</sup>

The Arbitrators perceive the current level of interest in xDSL technologies to be very beneficial to customers desiring data connections using existing copper facilities. Evidence in this case points to a proliferation of technologies that appear suited to the needs of individual customers. The competitive marketplace is poised to offer these new services, and should not be stifled in any way. Appropriate industry standards discussed elsewhere in this Award can

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<sup>61</sup> *Advanced Services Order* at ¶ 67.

<sup>62</sup> *Id.* at ¶ 68.

<sup>63</sup> *UNE Remand Order* at ¶ 190.

<sup>64</sup> *Id.* at ¶ 191.

provide safeguards to protect the underlying network and other carriers' systems operating in the same cable complement or binder group. For all these reasons and the reasons stated under DPL Issue No. 2, the Arbitrators find that SWBT is not in any way permitted to limit xDSL capable loops to the provision of ADSL. *See* DPL Issue No. 2.

**4(a). What is the physical makeup of a DSL capable loop that SWBT is required to provide?**

**4(b). Is SWBT required to provide a copper loop without interfering devices (load coils, bridge taps, and repeaters)?**

Parties' Positions

Rhythms maintains that SWBT should be ordered to provide an xDSL loop that is capable of providing all xDSL technologies depending on reasonable limitations established within the contract language. (For example, requiring the CLEC to comply with national industry standards as articulated in ANSI or some other forum document.)<sup>65</sup> In addition, Rhythms argues that it should be allowed to change the type of xDSL technology used on the loop as its customer needs change. Further, Rhythms urges that SWBT not be allowed to place artificial limitations on the length of xDSL-capable loops. Rhythms also seeks the ability to have SWBT perform a "line and station transfer" in the event that a potential Rhythms customer is served on a loop that contains fiber optic facilities, in order to allow another copper pair, if available, to extend directly to the customer. Rhythms also argues that the loop should be provisioned to meet basic metallic and electrical characteristics such as electrical conductivity and capacitive and resistance balance. Finally, Rhythms wants to be able to specify what type of conditioning or de-conditioning should be performed on the loop to allow the desired xDSL service to properly operate on the loop.<sup>66</sup>

Covad agrees with Rhythms' rationale, adding that their interconnection agreement with Pacific Bell, a SWBT affiliate, contains essentially the same definition of a xDSL loop Covad is

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<sup>65</sup> ACI Exhibit 3, Direct Testimony of Rand Kennedy at 10, 16 (Feb. 19, 1999); ACI Exhibit 8, Rebuttal Testimony of Rand Kennedy at 8-9 (April 8, 1999).

<sup>66</sup> ACI Ex. 3, Direct Testimony of Rand Kennedy at 15 (Feb. 19, 1999); ACI Post-Hearing Brief at 16-17.

proposing in this proceeding.<sup>67</sup> Covad states that it can provide ADSL, SDSL or IDSL services over a “clean” copper loop. Covad explains that in order to provide IDSL over some longer loops, the loop will need to have the same kind of repeaters SWBT uses for ISDN.<sup>68</sup>

SWBT contends that if loops without excessive bridge tap, load coils, or repeaters are available, those loops will be offered to the requesting CLEC, consistent with spectrum management standards regarding interference.<sup>69</sup> Further, if loops exist with the presence of load coils, excessive bridge tap, or repeaters, SWBT will recommend the conditioning of the loop to remove those items. SWBT asserts that it is at the CLEC’s sole option to order the removal of this equipment at the cost-based rates listed in SWBT’s contract.<sup>70</sup>

### Award

The Arbitrators find that SWBT must provide a “clean” copper loop upon CLEC request. The Arbitrators define “clean” in this context to mean a loop without excessive<sup>71</sup> bridged tap, load coils, or repeaters. Most of the xDSL technologies addressed in this proceeding depend on the use of a “clean” copper loop. SWBT utilizes “clean” copper loops for its own ADSL services, and must provide nondiscriminatory access to technically identical loops, if available, for use by CLECs. In the event that a “clean” loop is not available, the CLEC must be given the opportunity to evaluate the parameters of the xDSL service to be provided, and determine whether and what type of conditioning must be requested and performed. The Arbitrators find that all conditioning shall be performed at the request of the CLEC. In addition, the loop should be provisioned to meet basic metallic and electrical characteristics such as electrical conductivity and capacitive and resistance balance.

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<sup>67</sup> Covad Exhibit 2, Direct Testimony of Druv Khanna at 26 (Feb. 19, 1999).

<sup>68</sup> Covad Exhibit 4, Direct Testimony of Anjali Joshi at 5-6 (Feb. 19, 1999).

<sup>69</sup> SWBT Exhibit 7, Rebuttal Testimony of William C. Deere at 14-16 (April 8, 1999).

<sup>70</sup> SWBT Exhibit 8, Rebuttal Testimony of Jerry Fuess at 7-8 (April 8, 1999).

<sup>71</sup> ACI witness Rand Kennedy generally characterized excessive bridged tap as that in excess of 2,500 feet in length, Tr. at 1300 (June 4, 1999).

The Arbitrators' decision on these issues is consistent with the *UNE Remand Order*, which concluded that:

... permitting incumbents to deny access to basic loops stripped of accreted devices, *i.e.*, "conditioned" loops, would preclude the ability of competitors to offer high-speed data services. Such unencumbered copper wire is necessary for requesting carriers to provide most types of xDSL service. While some "flavors" of xDSL can be provided over loops with a limited number of impediments, as a general rule the quality of such service – particularly the speed – is significantly diminished, compared to the service provided over unencumbered wires. ... Without access to these loops, competitors would be at a significant disadvantage, and the incumbent LEC, rather than the marketplace, would dictate the pace of the deployment of advanced services.<sup>72</sup>

The issue of "line and station transfers" raised by Rhythms includes several sub-issues, *e.g.*, subloop unbundling, packet switching unbundling (DSLAMs), collocation of DSLAMs in RTs. When a CLEC requests an xDSL loop to serve a particular customer, and that customer resides in an area that is served by fiber via a RT, the Arbitrators believe that SWBT should not deny the request out of hand, but should look at other options to provide the service. One solution may be that there are copper pairs that can be made available through a line and station transfer as described by Rhythms. Another option may be to allow the CLEC to collocate DSLAM equipment in the remote location. This copper/fiber facilities issue is addressed under DPL Issue No. 6. However, at a minimum, the solutions that are available to SWBT's retail advanced services operations, or to its separate subsidiary, must also be made available to CLECs. In order to monitor this issue, the Arbitrators find that SWBT's denial of CLEC orders due to loop non-availability, discussed in response to DPL Issue No. 13, should also apply to denials resulting from fiber/DLC/DAML facility issues.

The Arbitrators address other concerns expressed by the Parties on these DPL issues in other parts of this Award. Rhythms' concerns regarding artificial limitations on loop length is addressed in DPL Issue No. 1. SWBT's spectrum management position is discussed further in Section III of this Award.

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<sup>72</sup> *UNE Remand Order* at ¶ 190 (footnotes omitted).

The Arbitrators find that the following language, adapted from T2A Attachment 25, should be included in the Parties' resulting Interconnection Agreements:

SWBT will provide a loop capable of supporting a technology presumed acceptable for deployment or non-standard xDSL technology as defined in this [Award].

SWBT shall not deny a CLEC's request to deploy any loop technology that is presumed acceptable for deployment, or one that is permitted during the twelve-month trial period, unless it has demonstrated to the Commission that the CLEC's deployment of the specific loop technology will significantly degrade the performance of other advanced services or traditional voice band services. For the purpose of this section, "significantly degrade" means to noticeably impair a service from a user's perspective.

In the event the CLEC wishes to introduce a technology that has been approved by another state commission or the FCC, or successfully deployed elsewhere, the CLEC will provide documentation describing that action to SWBT and the Commission before or at the time of their request to deploy that technology in Texas. The documentation should include the date of approval or deployment, any limitations included in its deployment, and a sworn attestation that the deployment did not significantly degrade the performance of other services. The terms of this paragraph do not apply during the twelve-month trial period.

**5. Can DSL loops retain repeaters at the CLEC's option?**

Parties' Positions

Rhythms states that CLECs should be able to retain repeaters. Rhythms asserts that repeaters will not cause technical interference with other loops. Rhythms contends that if SWBT unnecessarily forces the removal of repeaters, the result will be unwarranted delay and expense. Rhythms views the CLEC option of retaining repeaters as a business decision relating to quality of service that is appropriate for the CLEC and the customer.<sup>73</sup>

Covad agrees with Rhythms' rationale, and argues that repeaters do not interfere with the provisioning of IDSL service.<sup>74</sup> Covad explains that the IDSL technology can provide service to customers beyond the normal ADSL distance limit of 18,000 feet. According to Covad witness Mr. Khanna, Covad has provided service to customers in California on loops in excess of 40,000

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<sup>73</sup> ACI Exhibit 1, Direct Testimony of Eric H. Geis at 17-20, 38-39 (Feb. 19, 1999); ACI Exhibit 3, Direct Testimony of Rand Kennedy at 13-14 (Feb. 19, 1999).

<sup>74</sup> Covad Exhibit 4, Direct Testimony of Anjali Joshi at 5-6 (Feb. 19, 1999).

feet from the central office. Covad explains that in order to achieve those distances, repeaters must be placed on the cable pairs.<sup>75</sup>

SWBT asserts that it offers a 2-wire BRI-capable loop, which has digital repeaters or regenerators, as a standard product. The 2-wire BRI-capable loop would allow for provisioning IDSL. Additionally, SWBT offers language for the CLEC that allows for the ordering of an xDSL loop with repeater(s). SWBT does not contest this issue, except to note that if a loop contains repeaters, removal is at the option of CLEC, and that some repeaters may not be compatible with the CLEC's intended use.<sup>76</sup>

#### Award

The Arbitrators find that xDSL loops may retain repeaters at the discretion of the CLEC. The Arbitrators perceive no disagreement among the Parties on this issue. To the extent that a CLEC wishes to retain an existing repeater for the provision of IDSL or other technologies, it should be allowed to do so. The Arbitrators find that any conditioning of xDSL loops is at the sole discretion of the CLEC.

**6. If a copper loop is not available from the customer premises to the SWBT central office, does Rhythms have the right to place appropriate equipment such as DSLAMs at the fiber/copper interface point in SWBT's network?**

#### Parties' Positions

Rhythms posits that all carriers must have equal accessibility to the copper portion of loops, whether the copper portion ends at the MDF or a location in the field. Rhythms asserts that it must have the ability to place its xDSL equipment at the end of the copper section of the customer's loop. This will allow Rhythms to take the traffic and convert it so that it can ride the fiber DLC system back to the central office. Rhythms witness Mr. Kennedy contends that the DSLAM should be placed at the end of the copper facility, whether that is at the central office, or

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<sup>75</sup> Tr. at 1395-1396 (June 4, 1999).

<sup>76</sup> DPL at 20 (May 28, 1999).

at a remote interface. He notes that the placement of a DSLAM at remote location is technically feasible.<sup>77</sup>

Covad does not provide evidence on this specific issue.

SWBT notes that the Texas Collocation Tariff permits the collocation of transmission equipment in huts, CEVS (controlled environmental vaults), and Remote Terminals (RTs), where space is available. SWBT states that xDSL loops out of these RT sites may be available via the bona fide request (BFR) process, depending on the circumstances in the RT. SWBT warns that a dual-fed RT with both copper and fiber may have technical issues that would limit the deployment of xDSL from the RT. For example, SWBT continues, if two xDSL signals travel down a distribution cable, one introduced by CLEC A from a collocation site in the central office, and the second from CLEC B at the RT site, there may be crosstalk and interference issues from these adjacent services since their power levels in the distribution cable are different. Since more carriers will be able to access the loop from the central office versus the RT, xDSL sub-loops would not be available from that particular RT. SWBT argues that spectrum management becomes exponentially more complicated, since the signals must be tracked and inventoried, and the signals' point of introduction into the loop must be tracked and accounted for.<sup>78</sup>

#### Award

The Arbitrators find that delaying the deployment of remote DSLAMs would hinder competition and the deployment of advanced services. The FCC found in its *Advanced Services Order* that "a LEC may not deny a carrier's request to deploy technology that is presumed acceptable for deployment, unless the LEC demonstrates to the state commission that deployment of the particular technology within the LEC network will significantly degrade the

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<sup>77</sup> ACI Exhibit 1, Direct Testimony of Eric H. Geis at 19-20 (Feb. 19, 1999); ACI Exhibit 3, Direct Testimony of Rand Kennedy at 15-16 (Feb. 19, 1999).

<sup>78</sup> SWBT Exhibit 2, Direct Testimony of William C. Deere at 21 (Feb. 19, 1999).



performance of other advanced services or traditional voice band services.”<sup>79</sup> SWBT has not demonstrated that deployment of DSLAMs at remote locations will significantly degrade the performance of other services. In fact, SWBT’s own internal documents contain discussions relating to planning for exactly such deployment.<sup>80</sup> Therefore, SWBT should not be allowed to deny the Petitioners’ requests to deploy DSLAMs in remote locations. The Arbitrators agree that the introduction of xDSL terminals and DSLAMs in remote terminals may present additional technical issues. However, evidence shows that SWBT’s network planning team has been aware of the need to deploy remote DSLAMs.<sup>81</sup> See Confidential Attachment B, Paragraph B. Regardless of whether SWBT intends to pursue this option, the Arbitrators do not believe it is reasonable to delay CLEC deployment of remote DSLAM configurations until SWBT has determined whether it wants to have the same configuration for its own retail xDSL operation.

The Arbitrators find that in locations where SWBT has deployed (1) DLC systems and an uninterrupted copper loop is replaced with a fiber segment or shared copper in the distribution section of the loop, (2) DAML technology to derive two voice-grade POTS circuits from a single copper pair, or (3) entirely fiber optic facilities to the end user, a competitor can be effectively precluded from offering xDSL service if the following options are not made available.

In the three situations above, where spare copper facilities are available, and the facilities meet the necessary technical requirements for the provision of xDSL<sup>82</sup> and allow Petitioners to offer the same level of quality for advanced services, Petitioners should have the option of requesting that SWBT make copper facilities available, (e.g., one way would be to perform a line and station transfer, i.e., reassignment of a current service to a different working loop). Petitioners should also have the option of collocating a DSLAM in the RT at the fiber/copper

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<sup>79</sup> *Advanced Services Order* at ¶ 68.

<sup>80</sup> ACI Exhibit 41(confidential), Deposition Exhibit 28. Specifically, the minutes from meetings of the Network Evolution Relevant to Data Services (NERDS) group, Jul. 21, 1998, Aug. 25, 1998, and Dec. 1, 1998.

<sup>81</sup> *Id.*

<sup>82</sup> For example, if the loop length exceeds a certain distance, the provision of a particular xDSL service may not be technically infeasible. See *UNE Remand Order* at ¶ 313.

interface point. In this situation, SWBT is required to provide unbundled access to subloops to allow Petitioners to access the copper wire portion of the loop.<sup>83</sup>

Further, the Arbitrators find that in the situation where Petitioners are unable to install a DSLAM at the RT or obtain spare copper loops necessary to provision an xDSL service, and SWBT has placed a DSLAM in the RT, SWBT must unbundle and provide access to its DSLAM. SWBT is relieved of this requirement to unbundle its DSLAM only if it permits Petitioners to collocate their DSLAMs in the RT on the same terms and conditions that apply to its own DSLAM.<sup>84</sup> To find otherwise would enable SWBT to effectively create a barrier to Petitioners' entry into the xDSL market in Texas.

The Arbitrators findings under this DPL Issue are also applicable to DPL Issue Nos. 1, 4(a) and 4(b).

The Arbitrators findings are consistent with FCC precedent. The FCC addressed this issue in its *UNE Remand Order*. First, the FCC concluded that ILECs must provide unbundled access to subloops. The FCC concluded "that lack of access to unbundled subloops at technically feasible points throughout the incumbent's loop plant will impair a competitor's ability to provide services that it seeks to offer."<sup>85</sup> The FCC clarified that "technically feasible points" would include (in the context of this issue) any FDI, whether the FDI is located at a cabinet, CEV, remote terminal, utility room in a multi-dwelling unit, or any other accessible terminal. The FCC further stated that:

... competitors seeking to offer services using xDSL technology need to access the copper wire portion of the loop. In cases where the incumbent multiplexes its copper loops at a remote terminal to transport the traffic to the central office over fiber DLC facilities, a requesting carrier's ability to offer xDSL service to

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<sup>83</sup> This Commission has required subloop unbundling in prior arbitrations. See *UNE Remand Order* at ¶ 218.

<sup>84</sup> The FCC has required such unbundling in its *UNE Remand Order* at ¶ 313.

<sup>85</sup> *UNE Remand Order* at ¶¶ 209-211 (Loop facilities, including subloop elements, are the most time-consuming and expensive network element to duplicate on a pervasive scale, and that the cost of self-provisioning subloops can be prohibitively expensive. Self-provisioning subloops would require requesting carriers to incur significant sunk costs prior to offering services to end users. Requiring competitors to expend such sums would, at a minimum, delay entry and thus postpone the benefits of competition for consumers.).

customers served over those facilities will be precluded, unless the competitor can gain access to the customer's copper loop before the traffic on that loop is multiplexed. Thus, we note that the remote terminal has, to a substantial degree, assumed the role and significance traditionally associated with the central office. In addition, in order to use its own facilities to provide xDSL service to a customer, a carrier must locate its DSLAM within a reasonable distance of the customer premises, usually less than 18,000 feet. In both of these situations, a requesting carrier needs access to copper wire relatively close to the subscriber in order to serve the incumbent's customer.<sup>86</sup>

The FCC then provides direction on the specific issue of remote DSLAMs in its discussion of loops used for packet switching.

In locations where the incumbent has deployed digital loop carrier (DLC) systems, an uninterrupted copper loop is replaced with a fiber segment or shared copper in the distribution section of the loop. In this situation, and where no spare copper facilities are available, competitors are effectively precluded altogether from offering xDSL service if they do not have access to unbundled packet switching. ... When an incumbent has deployed DLC systems, requesting carriers must install DSLAMs at the remote terminal instead of at the central office in order to provide advanced services. We agree that, if a requesting carrier is unable to install its DSLAM at the remote terminal or obtain spare copper loops necessary to offer the same level of quality for advanced services, the incumbent LEC can effectively deny competitors entry into the packet switching market. We find that in this limited situation, requesting carriers are impaired without access to unbundled packet switching. Accordingly, incumbent LECs must provide requesting carriers with access to unbundled packet switching in situations in which the incumbent has placed its DSLAM in a remote terminal. This obligation exists as of the effective date of the rules adopted in this Order. The incumbent will be relieved of this unbundling obligation only if it permits a requesting carrier to collocate its DSLAM in the incumbent's remote terminal, on the same terms and conditions that apply to its own DSLAM. Incumbents may not unreasonably limit the deployment of alternative technologies when requesting carriers seek to collocate their own DSLAMs in the remote terminal.<sup>87</sup>

Finally, the Arbitrators note that because the FCC has found that packet switching is a UNE in the limited circumstances stated above, and that the DSLAM is a component of the

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<sup>86</sup> *UNE Remand Order* at ¶ 218 (footnotes omitted).

<sup>87</sup> *UNE Remand Order* at ¶ 313 (footnotes omitted).

packet switching functionality,<sup>88</sup> the SBC/Ameritech merger conditions relating to advanced services equipment are relevant. The merger conditions provide that, “[i]f SBC/Ameritech transfers to its separate affiliate a facility that is deemed to be a UNE under 47 U.S.C. § 251(c)(3), the [FCC’s] unbundling requirements will attach with respect to that UNE as described in section 53.207 of the [FCC’s] rules, 47 C.F.R. § 53.207.”<sup>89</sup> Accordingly, the unbundling requirement with respect to DSLAMs would attach to such equipment transferred to SWBT’s advanced services affiliate.

**7. Is SWBT permitted to require shielded cable (versus non-shielded cable) for central office wiring when provisioning xDSL technologies?**

Parties’ Positions

Rhythms contends that there is no legitimate technical purpose for requiring shielded cable for central office cabling.<sup>90</sup> Moreover, Rhythms asserts that shield cross connects are not necessary when provisioning xDSL services.<sup>91</sup>

Covad contends that shielded cross connects are not necessary because crosstalk in the limited distance covered by the shielded cable is insubstantial. Covad argues that other ILECs, including SWBT affiliate Pacific Bell, do not require shielded central office cable. Covad asserts that it has never received a report of any problems related to the absence of shield cross-connects from an ILEC.<sup>92</sup>

In its original filing, SWBT required shielded cable (versus non-shielded cable) for central office wiring when provisioning xDSL technologies. SWBT now replies that it does not

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<sup>88</sup> *UNE Remand Order* at ¶ 303, 313.

<sup>89</sup> SBC/Ameritech Merger Order, Appendix C, *Conditions* at ¶ 3(e).

<sup>90</sup> ACI Exhibit 1, Direct Testimony of Eric H. Geis at 21-22 (Feb. 19, 1999); ACI Exhibit 3, Direct Testimony of Rand Kennedy at 26 (Feb. 19, 1999); ACI Exhibit 6, Rebuttal Testimony of Eric H. Geis at 27 (April 8, 1999); ACI Exhibit 8, Rebuttal Testimony of Rand Kennedy at 9-10 (April 8, 1999).

<sup>91</sup> See ACI Exhibit 5, Direct Testimony of Terry L. Murray (Feb. 19, 1999); ACI Exhibit 3, Direct Testimony of Rand Kennedy (Feb. 19, 1999); ACI Exhibit 4, Direct Testimony of Philip Kyees (Feb. 19, 1999).

require shielded cross-connect cabling in the current version of its proposed agreement, and instead leaves this as an option for the CLEC.<sup>93</sup>

#### Award

The Arbitrators do not perceive disagreement among the Parties on this issue. The Arbitrators agree with the Parties and find that SWBT can not require shielded cable for central office wiring when provisioning xDSL technologies; rather, use of a shielded cable should be at the option of the CLEC. *See* DPL Issue Nos. 28 and 32.

#### **9. Can SWBT be permitted to install equipment at its own discretion that may interfere with the provision of xDSL services by a CLEC?**

#### Parties' Positions

Rhythms insists that SWBT should not be entitled to install any equipment that would affect the continuity of CLECs services or would interpose SWBT between the CLEC and its customer.<sup>94</sup>

Covad acknowledges that SWBT no longer insists on "power guards." However, in the event that SWBT has not withdrawn this issue, Covad restates its objection to power guards. Covad maintains that SWBT should not be allowed to impose power guards on CLEC xDSL equipment. Covad contends that there is no reason to believe that a CLEC would violate any policy it agreed to and/or this Commission imposed regarding spectrum management. Covad further explains that power guards do not exist today, and SWBT should not be placed in a

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<sup>92</sup> Covad Exhibit 4, Direct Testimony of Anjali Joshi at 17 (Feb. 19, 1999).

<sup>93</sup> DPL at 22 (May 28, 1999).

<sup>94</sup> ACI Exhibit 1, Direct Testimony of Eric H. Geis at 28-30 (Feb. 19, 1999); ACI Exhibit 3, Direct Testimony of Rand Kennedy at 26-27 (Feb. 19, 1999); ACI Exhibit 8, Rebuttal Testimony of Rand Kennedy at 7-8 (April 8, 1999).

position of monitoring CLEC xDSL equipment. Covad believes that power guards would inevitably degrade Covad's service.<sup>95</sup>

SWBT states that it does not intend, nor has it requested, to install equipment that may interfere with the provision of xDSL services by a CLEC. Rather, SWBT wishes to reserve the right to use a non-intrusive device, when/if available, as a means to assure that CLEC usage is as represented for all xDSL technologies. SWBT says that it does not offer contract language on this point because there is too much uncertainty as to this matter.<sup>96</sup>

#### Award

The Arbitrators deny SWBT's request to reserve the right to use a non-intrusive device, when or if available, as a means to assure that CLEC usage is as represented for all xDSL technologies. The Arbitrators recognize that some type of testing equipment will likely be required to perform maintenance and troubleshooting on xDSL systems. However, there has been no reasonable showing that an installed device of this sort would be practical, cost-effective, or necessary.

**10. Is it appropriate for SWBT to impose limitations on the transmission speeds of xDSL services?**

#### Parties' Positions

Rhythms argues that it is not appropriate for SWBT to impose limitations on the transmission speeds of xDSL services. Rhythms states that a more important consideration is interference with services carried on adjacent loops, which can be addressed directly by national

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<sup>95</sup> Covad Exhibit 4, Direct Testimony of Anjali Joshi at 18-19 (Feb. 19, 1999).

<sup>96</sup> DPL at 25 (May 28, 1999).

standards. Until such national standards are in place, Rhythms contends that SWBT should not be allowed to impose unilateral limitations on transmission speed.<sup>97</sup>

Covad claims that it is not appropriate for SWBT to impose limitations on the transmission speeds of xDSL services and believes that this issue mirrors DPL Issue No. 9.<sup>98</sup>

SWBT asserts that it will comply with the *Advanced Services Order*. SWBT requires CLECs to identify the speeds that they intend to run solely for the purpose of spectrum management, as explained in SWBT's proposed contract language.<sup>99</sup>

### Award

The Arbitrators find it is not appropriate for SWBT to impose limitations on the transmission speeds of xDSL services. A major benefit of competition is technological innovation, as demonstrated by the advanced services at issue in this proceeding. The Arbitrators determine that no incumbent carrier should be permitted to thwart technological innovation. The Arbitrators order that SWBT must not be permitted to restrict the Petitioners' services or technologies to a level at or below those provided by SWBT. However, consistent with the *Advanced Services Order*, the Arbitrators find that SWBT may obtain information from the CLEC regarding the type of xDSL service provided on the loop for the sole purpose of maintaining an inventory of advanced services present in the cable sheath. As discussed with respect to DPL Issue No. 14(b), SWBT must keep such information confidential, not allowing it to be revealed to SWBT's retail operations, to its retail affiliate(s), or to other competitors.

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<sup>97</sup> ACI Exhibit 1, Direct Testimony of Eric H. Geis at 30-32 (Feb. 19, 1999); ACI Exhibit 6, Rebuttal Testimony of Eric H. Geis at 12-14 (April 8, 1999); ACI Exhibit 10, Rebuttal Testimony of Philip Kyees at 4-14 (April 8, 1999); ACI Exhibit 8, Rebuttal Testimony of Rand Kennedy at 7-8 (April 8, 1999); ACI Exhibit 21, Supplemental Direct Testimony of Rand Kennedy at 11 (May 24, 1999). [portions confidential]

<sup>98</sup> DPL at 27 (May 28, 1999).

<sup>99</sup> SWBT Exhibit 6, Rebuttal Testimony of Michael C. Auinbauh at 4-10 (April 8, 1999).

### III. Spectrum Management

#### DPL Issue Nos. 8, 11-14

8. Should national standards be applicable to the provisioning of xDSL services for the purposes of standards for this Interconnection Agreement, or can SWBT be permitted to impose its unique standards on xDSL services via its own technical publication(s)?

#### Parties' Positions

Rhythms argues that national standards should define the provisioning of xDSL services.<sup>100</sup> To the extent that limitations are placed on the xDSL services, Rhythms contends that those limitations should be specified by national standards, without waiver or modification.<sup>101</sup> Rhythms asserts that SWBT's Technical Publications do not comply with national standards<sup>102</sup> and SWBT cannot assure that its Technical Publications will remain consistent with national standards or industry-wide practices.<sup>103</sup> In the event that SWBT is permitted to impose standards for xDSL through its Technical Publications, Rhythms contends that the CLECs should have the right to review the standards, propose modifications, and resolve any disputes.<sup>104</sup>

Rhythms specifically objects to SWBT's position that if there is no approved national standard, CLECs must comply with SWBT's Technical Publications. Rhythms asserts that SWBT's Technical Publications contain requirements that go beyond accepted national standards. Rhythms witness Mr. Kyees cites an example of SWBT's Technical Publication (TP 76730) regarding ADSL that is not consistent with the national standard (T1.413), and contains

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<sup>100</sup> ACI Exhibit 1, Direct Testimony of Eric H. Geis at 22 (Feb. 19, 1999).

<sup>101</sup> ACI Exhibit 1, Direct Testimony of Eric H. Geis at 24 (Feb. 19, 1999).

<sup>102</sup> ACI Exhibit 3, Direct Testimony of Rand Kennedy at 25 (Feb. 19, 1999); ACI Exhibit 4, Direct Testimony of Philip Kyees at 10 (Feb. 19, 1999).

<sup>103</sup> ACI Exhibit 1, Direct Testimony of Eric H. Geis at 25 (Feb. 19, 1999).

<sup>104</sup> ACI Exhibit 8, Rebuttal Testimony of Rand Kennedy at 2-4 (April 8, 1999); ACI Exhibit 6, Rebuttal Testimony of Eric Geis at 5-11, 25-26 (April 8, 1999); ACI Exhibit 10, Rebuttal Testimony of Philip Kyees at 4-14 (April 8, 1999).



additional requirements based on SWBT's own retail implementation of ADSL that have little relevance to spectrum management.<sup>105</sup>

Covad states that it will abide by national standards, such as the ANSI standards developed by the T1E1.4 committee, for the provisioning of xDSL technologies.<sup>106</sup> Covad rejects SWBT's spectrum management plan on the basis that it: (1) is based on unsound assumptions; (2) unnecessarily limits the number of customers that could receive xDSL services; and (3) favors SWBT's ADSL over other xDSL services offered by CLECs.<sup>107</sup>

SWBT agrees to conform to national standards where national standards are available. SWBT witness Mr. McDonald explains that the value of industry standards is that businesses can develop products and services with the knowledge that those products and services will work for their customers and not disrupt the network.<sup>108</sup> National standards, such as those developed by ANSI, provide the industry with predictability as to how equipment can be manufactured and services can be delivered.<sup>109</sup> In the absence of national standards, SWBT maintains that its Technical Publications would be used on an interim basis to establish the "rules of the road."<sup>110</sup> SWBT further asserts that its Technical Publications are based upon national standards and thus comply with such standards.<sup>111</sup> SWBT states that it intends to conform its spectrum management plans with those developed by national standards, or approved by the FCC or the Commission.<sup>112</sup> SWBT explains that its Technical Publications attempt to be consistent with standards expected to be established by national standards group such as the ANSI T1E1.4.<sup>113</sup> According to SWBT,

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<sup>105</sup> ACI Exhibit 4, Direct Testimony of Phillip Kyees at 10 (Feb. 19, 1999).

<sup>106</sup> Covad Exhibit 4, Direct Testimony of Anjali Joshi at 11 (Feb. 19, 1999).

<sup>107</sup> Covad Exhibit 42, Supplemental Direct Testimony of Anjali Joshi at 16 (May 24, 1999).

<sup>108</sup> SWBT Exhibit 3, Direct Testimony of Richard A. McDonald at 4 (Feb. 19, 1999).

<sup>109</sup> *Id.* at 3.

<sup>110</sup> SWBT Exhibit 5, Direct Testimony of Alan Samson at 4 (Feb. 19, 1999).

<sup>111</sup> SWBT Exhibit 2, Direct Testimony of William Deere at 10 (Feb. 19, 1999), Tr. 1747 – 1761 (Apr. 15, 1999).

<sup>112</sup> SWBT Exhibit 26, Supplemental Rebuttal Testimony of William Deere at 14 (May 18, 1999).

<sup>113</sup> SWBT Exhibit 3, Direct Testimony of Richard A. McDonald at 10 (Feb. 19, 1999).

the Technical Publications can accelerate the availability of SWBT local loops to CLECs by establishing a method for managing the spectrum prior to the establishment of industry standards.<sup>114</sup>

SWBT further states that it will allow the deployment of xDSL technologies other than ADSL, regardless of whether national standards exist. Accordingly, CLECs may deploy technologies that have been successfully deployed by any carrier without significantly degrading the performance of other services, or that have been approved by any state commission or the FCC.<sup>115</sup>

#### Award

The Arbitrators conclude that national standards or industry-wide accepted standards shall govern the provisioning of xDSL services. Standards developed and adopted by standard-setting bodies like the ANSI T1E1.4, or standards that are the product of consensus in the telecommunications industry, shall constitute national standards. Standards set by standard-setting bodies like ANSI T1E1.4 are developed fairly, openly, and in a comprehensive manner to determine how the PSTN should accommodate xDSL based services. With respect to national standards, the FCC concluded in its *Advanced Services Order*:

We believe that the industry must develop a simpler and more open approach to spectrum management. Currently, each incumbent LEC defines its own spectrum management specifications. These measures vary from provider to provider and from state to state, thereby requiring competitive LECs to conform to different specifications in each area. We find that uniform spectrum management procedures are essential to the success of advanced services deployment.<sup>116</sup>

The Arbitrators also note that the § 271 DSL working group may set standards for Texas.

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<sup>114</sup> *Id.* at 10.

<sup>115</sup> SWBT Exhibit 6, Rebuttal Testimony of Michael C. Auinbauh at 10 (April 8, 1999).

<sup>116</sup> *Advanced Services Order* at ¶ 71.

Consistent with the *Advanced Services Order*, the Arbitrators order that SWBT shall not impose its own standards for provisioning xDSL services via its own Technical Publications. The *Advanced Services Order* specifically concluded the following with respect to the application of requirements by the incumbent LEC:

We acknowledge that clear spectral compatibility standards and spectrum management rules and practices are necessary both to foster competitive deployment of innovative technologies and to ensure the quality and reliability of the public telephone network. We find, however, that incumbent LECs should not unilaterally determine what technologies LECs, both competitive LECs and incumbent LECs, may deploy. Nor should incumbent LECs have unfettered control over spectrum management standards and practices. We are persuaded by the record that allowing incumbent LECs such authority may well stifle deployment of innovative competitive LEC technology. Various commenters argue that some incumbents are frustrating the deployment of advanced services under the guise of spectrum compatibility concerns. The better approach, we believe, is to establish competitively neutral spectral compatibility standards and spectrum management rules and practices so that all carriers know, without being subject to unilateral incumbent LEC determinations, what technologies are deployable and can design their networks and business strategies accordingly.<sup>117</sup>

SWBT's Technical Publications must be approved by the Commission prior to use,<sup>118</sup> and its Technical Publications regarding xDSL services have not yet been approved. Allowing SWBT to impose its own standards and practices would stifle the deployment of innovative CLEC technology, and dissuade new entrants from providing xDSL-based services in the state, thus delaying Texans' ability to benefit from new technologies. While SWBT argues that its Technical Publications are consistent with national standards, the record reveals that SWBT's current Technical Publications include additional criteria beyond those contained in national standards, and omit some of the parameters contained in the national standard for ADSL technology.<sup>119</sup>

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<sup>117</sup> *Advanced Services Order* at ¶ 63 (footnotes omitted).

<sup>118</sup> T2A, Attachment 6, Sec. 2.17.1.

<sup>119</sup> Tr. at 1744 – 1767 (June 5, 1999).

The Arbitrators reiterate their decision discussed in DPL Issue No. 2(b): carriers should be encouraged to develop and provide non-standard xDSL technologies through the means discussed in that portion of this Award.

**11. From a parity perspective, is SWBT required to conform to the same technical standards as CLECs for competing xDSL retail services?**

Parties' Positions

Rhythms asserts that it would cause discriminatory results for SWBT to be permitted to offer retail xDSL services using different underlying standards than CLECs.<sup>120</sup> Rhythms contends that SWBT should operate under national standards to ensure the compatibility and integrity of its nationwide network and to ensure high quality service to customers with employees or locations in many different states. Rhythms further states that SWBT's internal standards are restrictive and unnecessarily limit Rhythms' ability to offer the full range of services that it already offers to customers in SBC's other operating territories.<sup>121</sup> Finally, Rhythms contends that SWBT's specifications, as currently written, are not the appropriate mechanism to define technical implementation and provisioning standards, rules, or guidelines; nor do the specifications promote any of these goals.<sup>122</sup>

Covad agrees with Rhythms' rationale.<sup>123</sup>

SWBT asserts that its retail ADSL services will conform to the same national standards and Technical Publications that are used for its wholesale ADSL loops. Thus, requesting CLECs will have parity with SWBT with respect to offering xDSL services.<sup>124</sup> SWBT disagrees that existing nationwide standards are sufficient to address all relevant issues associated with the

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<sup>120</sup> DPL at 30 (June 1, 1999).

<sup>121</sup> ACI Exhibit 1, Direct Testimony of Eric H. Geis at 22 (Feb. 19, 1999).

<sup>122</sup> *Id.* at 24.

<sup>123</sup> DPL at 30 (June 1, 1999).

<sup>124</sup> SWBT Post Hearing Brief at 28 (Aug. 17, 1999); DPL at 30-31 (June 1, 1999).

deployment of xDSL technologies.<sup>125</sup> SWBT argues that national standards alone may not be enough to manage the network.<sup>126</sup> SWBT acknowledges that, while its network management policies may limit the offering of some xDSL services, it will insure that the network operates at the greatest capacity possible, while meeting the public's expectation for reliability.<sup>127</sup>

#### Award

At the hearing on the merits, Parties resolved this issue conceptually by agreeing that SWBT is required to conform to the same technical standards as CLECs for competitive xDSL retail services. The unresolved issue was the contract language that would implement the agreement among Parties.<sup>128</sup>

The Arbitrators support Parties' resolution and find, consistent with the *Advanced Services Order*, that SWBT shall not impose its own technical standards for SWBT's retail xDSL offerings on Petitioners. The better approach is to establish competitively neutral spectral compatibility standards and spectrum management rules and practices so that all carriers know, without being subject to unilateral ILEC determinations, what technologies are deployable and can design their networks and business strategies accordingly.<sup>129</sup>

The *Advanced Services Order* concluded that the ILEC should not have unfettered control over spectrum management standards and practices.<sup>130</sup> The Arbitrators also acknowledge the possibility that allowing SWBT to employ a different standard for itself than for its competitors could frustrate fair and open deployment of advanced services, and result in disparate provisioning of xDSL loops. Therefore, the Arbitrators conclude that SWBT shall not employ internal technical standards, through Technical Publications or otherwise, for its own

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<sup>125</sup> SWBT Exhibit 9. Rebuttal Testimony of Richard McDonald at 6 (April 8, 1999).

<sup>126</sup> *Id.* at 15.

<sup>127</sup> SWBT Exhibit 5. Direct Testimony of Alan Samson at 5 and 6 (Feb. 19, 1999).

<sup>128</sup> Tr. at 57-58 (April 14, 1999).

<sup>129</sup> *Advanced Services Order* at ¶ 63.

<sup>130</sup> *Id.*

retail xDSL that would adversely affect wholesale xDSL services or xDSL providers. For example, in DPL Issue No. 12, the Arbitrators rule that SWBT may not segregate binder groups exclusively for the provisioning of ADSL services, as the practice potentially limits the number and types of xDSL services provisioned by all providers.

**12(a). Is there an industry consensus that there is a technically sound basis to implement Binder Group Management Plan?**

**12(b). If not, should a Binder Group Management plan be imposed on CLECs in the interconnection agreement?**

**12(c). Should SWBT be allowed to reserve loop complements for ADSL services exclusively?**

Parties' Positions

Rhythms argues that SWBT is seeking to impose its own self-generated spectrum management/binder group management (BGM) plan that has not been reviewed by a regulatory body or agreed to by any national standards forums such as ANSI, or affected CLECs.<sup>131</sup> Further, Rhythms witness Mr. Geis contends that SWBT and Pacific Bell are the only ILECs that are planning to implement such a plan.<sup>132</sup> Rhythms expresses concern that SWBT's BGM plan will give SWBT control over Rhythms' unbundled loops.<sup>133</sup> Rhythms witness Mr. Kyees admits that BGM has worked well for T-1 carrier systems, since the upstream and downstream signals impact each other so severely that they must be separated by other binders. However, he asserts that for other technologies, the BGM technique would be inefficient, expensive and difficult to maintain.<sup>134</sup>

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<sup>131</sup> ACI Exhibit 1, Direct Testimony of Eric H. Geis at 31 (Feb. 19, 1999).

<sup>132</sup> *Id.*

<sup>133</sup> *Id.*

<sup>134</sup> ACI Exhibit 4, Direct Testimony of Philip Kyees at 11 - 12 (Feb. 19, 1999).

Rhythms witness Mr. Kyees introduces correspondence from Bell Atlantic that was contributed to the ANSI T1E1.4 Working Group, entitled “Binder Group Segregation is Not Feasible.”<sup>135</sup> The Bell Atlantic analysis focuses on the lack of binder groups integrity in loop plant, and the resulting impracticality of binder group segregation. Mr. Kyees further testifies that nearly every other incumbent LEC present at the ANSI T1E1 meeting at which this paper was submitted also agreed with Bell Atlantic’s findings.<sup>136</sup>

In response to SWBT’s revised BGM proposal known as Selective Feeder Separation (SFS), Rhythms witness Mr. Kennedy contends that the SWBT SFS program contains serious flaws. First, Rhythms contends that the SFS plan is based solely on “interferer tables”<sup>137</sup> created by an affiliate and that contain a number of shortcomings, enumerated by Rhythms witness Mr. Kyees.<sup>138</sup> Rhythms asserts that one of its prime concerns is that SWBT’s interferer tables are based on a single vendor’s ADSL technology, and are not necessarily consistent with the technologies or vendors used by other carriers, or even later versions of the selected vendor’s equipment. In addition, Rhythms objects to the assumptions inherent in the tables regarding binder group sizing. Rhythms also objects to the accuracy of SWBT’s interferer tables because the computations are based on lab tests rather than field results. In addition, Rhythms asserts that the interferer tables proposed by SWBT represent a combination of loop reach values, both upstream and downstream, which does not represent real-world installations. Mr. Kyees further opposes the use of SWBT’s interferer tables because they assume that the “disturbers” are co-located at the same point in the central office, which is not reflected in actual practice. Additionally, Rhythms asserts that the tables are incomplete because they do not include information about all the various types of xDSL services, and do not contain information about different combinations of “disturbers.” Addressing an additional concern regarding SWBT’s SFS plan, Rhythms witness Mr. Kennedy asserts that the SFS plan represents an improper

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<sup>135</sup> *Id.* at Attachment PK-1.

<sup>136</sup> *Id.* at 12.

<sup>137</sup> SWBT Exhibit 2, Direct Testimony of William Deere at Schedules 1 - 3 (Feb. 19, 1999); ACI Exhibit 17/17A, DSL Methods and Procedures Attachment 1.

<sup>138</sup> ACI Exhibit 22, Supplemental Direct Testimony of Philip Kyees at 3 - 7 (May 24, 1999); *see also* ACI Post-Hearing Brief at 39-45.

attempt to reserve large numbers of pairs in advance for the exclusive use of the ADSL technology being deployed by SWBT.<sup>139</sup>

Rhythms urges the Commission to halt the program immediately, since it is lacking in technical foundation and could have discriminatory and detrimental effects on the deployment of competitive xDSL services. Rhythms contends that it would be inappropriate for SWBT to impose standards on a unilateral basis, since spectrum management is currently being considered by the FCC and the standards setting groups.<sup>140</sup> Rhythms also urges the Commission to remove any restrictions imposed by SWBT on use of pairs for xDSL services, either through designations in the LFACS and LEAD databases or by the rules in LFACS limiting deployment of xDSL services to certain pair ranges.

Covad argues that SWBT's spectrum management plan is based on unfounded theoretical and operational assumptions; intentionally and unnecessarily limits the number of customers that can receive any type of DSL service other than ADSL; and is discriminatory and anticompetitive because the plan favors SWBT's ADSL services over the xDSL services offered by CLECs.<sup>141</sup> Covad witness Ms. Joshi highlights several spectrum management procedures that she believes are anticompetitive, since they limit the number of non-ADSL services that may be deployed by competitors. Ms. Joshi contends that SWBT's advance reservation of ADSL-only complements before CLECs have the opportunity to deploy their services represents a discriminatory practice. In addition, Ms. Joshi asserts that SWBT's assumption that all loops in such reserved complements are the same length as the "longest theoretical loop" limits the number of non-ADSL services available, according to SWBT's interference tables. Covad argues that availability is further limited by SWBT's assumption that all loops in the ADSL-only complements are, or will be, operational. In addition, Covad argues that availability of pairs are limited, as SWBT has reserved as many cable complements as operationally possible for ADSL service deployment. Finally, Ms. Joshi contends that because of SFS, SWBT restricts

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<sup>139</sup> ACI Exhibit 21, Supplemental Direct Testimony of Rand Kennedy at 4 - 6 (May 24, 1999).

<sup>140</sup> *Id.* at 10.

<sup>141</sup> Covad Exhibit 42, Supplemental Direct Testimony of Anjali Joshi at 16 (May 24, 1999).



deployment of non-ADSL services in six times as many loops as reserved for ADSL, by blocking off binder groups surrounding the reserved cable complement.<sup>142</sup>

SWBT states that a BGM process isolates digital services, such as T-1 and ADSL, and attempts to place all such services within discrete sections (binder groups) in the outside plant cable. SWBT contends that BGM is necessary due to digital "interferers," which reduce the operating range of ADSL loops within an individual binder. SWBT argues that, by placing the digital interferers in a common binder group, and separating those binders from other binders in the cable, complete binder groups containing no interferers can be created. SWBT states that it currently segregates T-1 carrier systems in the feeder plant, an integral part of the its proposed BGM plan.<sup>143</sup>

In rebuttal testimony SWBT witnesses Mr. McDonald and Mr. Deere clarify that SWBT intends to utilize SFS, which manages the binder group in the feeder plant only, and is only used in cases where an improvement in the interference environment can be realized.<sup>144</sup> SWBT states that by reducing the interference in the feeder plant, the performance of the user-to-network (upstream) channel is improved. According to SWBT witness Mr. McDonald, using SFS not only benefits T-1 and ADSL, but also reduces the exposure of other xDSL technologies from interference from T-1 and ADSL.<sup>145</sup>

SWBT maintains that the *Advanced Services Order* reflects a consensus on the necessity for BGM.<sup>146</sup> SWBT states that the industry views limited SFS for ADSL and T-1 carrier in the feeder plant as an effective method for improving network performance for xDSL based services.<sup>147</sup> According to SWBT, the principle underlying SFS is commonly accepted and

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<sup>142</sup> *Id.* at 16-17.

<sup>143</sup> SWBT Exhibit 2, Direct Testimony of William C. Deere at 18 (Feb. 19, 1999).

<sup>144</sup> SWBT Exhibit 9, Rebuttal Testimony of Richard A. McDonald at 7 (Apr. 8, 1999).

<sup>145</sup> *Id.* at 8.

<sup>146</sup> *Advanced Services Order* at ¶ 61-65; SWBT Exhibit 7, Rebuttal Testimony of William C. Deere at 17-18 (Apr. 8, 1999); SWBT Exhibit 3, Direct Testimony of Richard A. McDonald at 4-10 (Feb. 19, 1999).

<sup>147</sup> SWBT Exhibit 9, Rebuttal testimony of Richard A. McDonald at 10 (Apr. 8, 1999).

employed by many companies.<sup>148</sup> Reserving binder groups for ADSL services, SWBT argues, will increase the number of binder groups available for other xDSL technologies.<sup>149</sup> SWBT maintains that, if ADSL is randomly assigned across binder groups, the presence of a single ADSL loop could preclude the use of another loop for a different xDSL technology, if the new xDSL technology were to cause significant degradation.<sup>150</sup>

Regarding the role of BGM in national standard-setting bodies, SWBT's witness Mr. Russell states that "[c]ontributions have been submitted to T1E1.4 that define BGM as a process for manipulation of all technologies throughout the loop plant. These contributions state that BGM cannot always be done, and SWBT agrees. The contributions do not propose prohibiting BGM (or subsets thereof) only that it should not be required. To take a statement that something should not be required and convert it to a statement that something should not be allowed is an incorrect extrapolation. The contributions also state that some limited forms of BGM may be possible and could offer performance improvement in some cases."<sup>151</sup>

Regarding industry agreement on BGM, SWBT Witness Mr. McDonald responded to the criticism in the Bell Atlantic paper by indicating that it focused on the difficulty of manipulating the relative location of the pairs and binders used for all the various xDSL services to reduce the interference throughout the loop plant.<sup>152</sup> According to Mr. McDonald, SWBT's plan of SFS only attempts to manage pairs and binders in the feeder plant, and therefore can be distinguished from the criticism of Bell Atlantic.<sup>153</sup> Further, he asserts that limited SFS for ADSL and T-1 carrier in the feeder plant is effective, and the principle underlying SFS is commonly accepted.<sup>154</sup>

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<sup>148</sup> *Id.* at 11.

<sup>149</sup> SWBT Exhibit 26, Supplemental Rebuttal Testimony of William Deere at 17 (May 28, 1999).

<sup>150</sup> *Id.*

<sup>151</sup> SWBT Exhibit 29, Supplemental Rebuttal Testimony of Mark Russell at 3 (May 28, 1999).

<sup>152</sup> SWBT Exhibit 9, Rebuttal Testimony of McDonald at 10 (April 8, 1999).

<sup>153</sup> *Id.*

<sup>154</sup> *Id.* at 10-11.